

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

**Claims 1-28 (canceled).**

Claim 29 (currently amended): A mutant, transgenic corn plant comprising a transgene, one or more mutations wherein the transgene is hypomethylated and the expression of said transgene is said one or more mutations cause at least a two-to-three-fold higher increase in the expression of a transgene as compared to the expression of the transgene in a non-mutant transgenic corn plant.

Claim 30 (currently amended): Mutant, transgenic seed from the mutant, transgenic corn plant of claim 29, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 31 (currently amended): Progeny mutant, transgenic seed produced by crossing the mutant transgenic plant of claim 29 and another plant or by self-pollinating the mutant, transgenic corn plant of claim 29, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 32 (original): A tissue culture of regenerable cells of the plant of claim 29.

Claim 33 (currently amended): The mutant, transgenic corn plant of claim 29 wherein the higher increase in the expression of the transgene is detectable by RNA analysis analytical measurements.

Claim 34 (currently amended): The mutant, transgenic corn plant of claim 29 wherein said mutant, transgenic corn plant is selected from the group consisting of mop1-1 mop1-2, mop3-1, Mop2-1, rmr1-1 and rmr2-1.

**Claims 35 to 80 (canceled).**

Claim 81 (currently amended): Mutant corn seed ~~designated~~ genotypically designated *rmr2-1* having ATCC Accession Number PTA-3956.

Claim 82 (currently amended): A mutant corn plant produced from the seed of claim 81.

Claim 83 (currently amended): A mutant corn plant having all of the ~~genetical~~, phenotypic and morphological characteristics of a plant produced from the seed of claim 81.

Claim 84 (original): Pollen or an ovule of the plant of claim 82.

Claim 85 (currently amended): A mutant corn plant having the ~~genetical~~ genotypic characteristics of the plant of claim 82.

Claim 86 (currently amended): ~~An essentially homogeneous~~ population of corn plants produced by growing the seed of the corn plant of claim 82.

Claim 87 (currently amended): Mutant, transgenic seed produced from the plant of claim 82, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 88 (currently amended): Progeny mutant seed produced from crossing the plant of claim 82 with another corn plant or by self-pollinating the plant of claim 82.

Claim 89 (currently amended): A mutant corn plant produced from the seed of claim 88.

Claim 90 (currently amended): A mutant, transgenic corn seed produced from the plant of claim 89, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 91 (currently amended): ~~The~~ A tissue culture of regenerable mutant cells of corn plant genotypically designated *rmr2-1*, wherein the tissue culture can regenerate into a plants having capable of expressing all the physiological and morphological characteristics of the corn plant *rmr2-1*, a sample of the seed of said corn plant *rmr2-1* having been deposited under ATCC Accession Number PTA-3956.

Claim 92 (original): The tissue culture of claim 91, wherein the regenerable cells comprise cells derived from embryos, immature embryos, meristematic cells, immature tassels, microspores, pollen, leaves, anthers, roots, root tips, silk, flowers, kernels, ears, cobs, husks, or stalks.

Claim 93 (original): The tissue culture of claim 92, wherein the regenerable cells comprise protoplasts or callus.

Claim 94 (currently amended): A corn plant regenerated from the tissue culture of claim 91, wherein said corn plant ~~has is capable of expressing~~ all of the ~~genetieal~~ genotypic, physiological and morphological characteristics of the corn plant designated *rmr2-1*, a sample of the seed of said corn plant designated *rmr2-1* having been deposited under ATCC Accession Number PTA-3956.

Claim 95 (currently amended): A process of producing mutant, transgenic corn seed, comprising self-pollinating a transgenic mutant, plant genotypically designated *rmr2-1* or crossing a first transgenic parent corn plant with a second parent corn plant, wherein said first or second corn plant is the mutant corn plant *rmr2-1*, a sample of the seed of said mutant corn plant *rmr2-1* having been deposited under ATCC Accession No. PTA-3956, wherein said mutant transgenic seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 96 (original): The process of claim 95, wherein crossing comprises the steps of:

- (a) planting in pollinating proximity seeds of said first and second corn plants;
  - (b) cultivating the seeds of said first and second corn plants into plants that bear flowers;
  - (c) emasculating the male flowers of said first or second corn plant to produce an emasculated corn plant;
  - (d) allowing cross-pollination to occur between said first and second corn plants;
- and
- (e) harvesting seeds produced on said emasculated corn plant.

Claim 97 (original): The process of claim 96, further comprising growing said harvested seed to produce a hybrid corn plant.

Claim 98 (currently amended): Hybrid mutant, transgenic corn seed produced by the process of claim 97 95, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 99 (currently amended): A hybrid mutant, transgenic corn plant produced by the process of claim 97, wherein said plant comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn plant.

**Claims 100 to 120 (canceled).**

Claim 121 (currently amended): Mutant corn seed ~~designated~~ genotypically designated *Mop2-1* having ATCC Accession Number PTA-4030.

Claim 122 (currently amended): A mutant corn plant produced from the seed of claim 121.

Claim 123 (currently amended): A mutant corn plant having all of the genotypic ~~genetical~~, phenotypic and morphological characteristics of a plant produced from the seed of claim 121.

Claim 124 (original): Pollen or an ovule of the plant of claim 122.

Claim 125 (currently amended): A mutant corn plant having the ~~genetical~~ genotypic characteristics of the plant of claim 122.

Claim 126 (currently amended): ~~An essentially homogeneous~~ population of corn plants produced by growing the seed of the corn plant of claim 122.

Claim 127 (currently amended): Mutant, transgenic seed produced from the plant of claim 122, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 128 (currently amended): Progeny mutant, transgenic seed produced from crossing the plant of claim ~~121~~ 122 with ~~another~~ a transgenic corn plant ~~or by self pollinating the plant of claim 121~~ wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 129 (currently amended): A mutant, transgenic corn plant produced from the seed of claim 128, wherein said plant comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn plant.

Claim 130 (currently amended): A mutant, transgenic corn seed produced from the plant of claim 129, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 131 (currently amended): ~~The~~ A tissue culture of regenerable mutant, transgenic cells of a corn plant genotypically designated *Mop2-1*, wherein the tissue culture can regenerates into a plants having ~~capable of expressing~~ all the physiological and morphological characteristics of the corn plant *Mop2-1*, a sample of the seed of said corn plant *Mop2-1* having been deposited under ATCC Accession Number PTA-4030.

Claim 132 (original): The tissue culture of claim 131, wherein the regenerable cells comprise cells derived from embryos, immature embryos, meristematic cells, immature tassels, microspores, pollen, leaves, anthers, roots, root tips, silk, flowers, kernels, ears, cobs, husks, or stalks.

Claim 133 (original): The tissue culture of claim 132, wherein the regenerable cells comprise protoplasts or callus.

Claim 134 (currently amended): A corn plant regenerated from the tissue culture of claim 131, wherein said corn plant ~~has is capable of expressing~~ all of the physiological and morphological characteristics of the corn plant designated *Mop2-1*, a sample of the seed of said corn plant designated *Mop2-1* having been deposited under ATCC Accession Number PTA-4030.

Claim 135 (currently amended): A process of producing mutant corn seed, comprising self-pollinating a mutant plant genotypically designated *Mop2-1* or crossing a first parent corn plant with a second parent corn plant, wherein said first or second corn plant is the mutant corn plant *Mop2-1*, a sample of the seed of said mutant corn plant *Mop2-1* having been deposited under ATCC Accession No. PTA-4030.

Claim 136 (original): The process of claim 135, wherein crossing comprises the steps of:

- (a) planting in pollinating proximity seeds of said first and second corn plants;
  - (b) cultivating the seeds of said first and second corn plants into plants that bear flowers;
  - (c) emasculating the male flowers of said first or second corn plant to produce an emasculated corn plant;
  - (d) allowing cross-pollination to occur between said first and second corn plants;
- and



(e) harvesting seeds produced on said emasculated corn plant.

Claim 137 (original): The process of claim 136, further comprising growing said harvested seed to produce a hybrid corn plant.

Claim 138 (currently amended): Hybrid mutant corn seed produced by the process of claim ~~137~~ 135.

Claim 139 (currently amended): A hybrid mutant corn plant produced by the process of claim 137.

**Claims 140 to 200 (canceled).**

Claim 201 (currently amended): Mutant corn seed ~~designated~~ genotypically designated Mop1-2EMSMop1-1 having ATCC Accession Number PTA-~~3826~~3828.

Claim 202 (currently amended): A mutant corn plant produced from the seed of claim 201.

Claim 203 (currently amended): A mutant corn plant having all of the genotypic ~~genetical~~, phenotypic and morphological characteristics of a plant produced from the seed of claim 201.

Claim 204 (original): Pollen or an ovule of the plant of claim 202.

Claim 205 (currently amended): A mutant corn plant having the genetical genotypic characteristics of the plant of claim 202.

Claim 206 (currently amended): ~~An essentially homogeneous~~ population of corn plants produced by growing the seed of the corn plant of claim 202.

Claim 207 (currently amended): Mutant seed produced from the plant of claim 202.

Claim 208 (currently amended): Progeny mutant seed produced from crossing the plant of claim 202 with another corn plant or by self-pollinating the plant of claim 202.

Claim 209 (currently amended): A mutant, transgenic corn plant produced from the seed of claim 208, wherein said plant comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn plant.

Claim 210 (currently amended): A mutant, transgenic corn seed produced from the plant of claim 209, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 211 (currently amended): ~~The~~ A tissue culture of regenerable mutant, transgenic cells of corn plant genotypically designated *Mop1-2EMS*mop1-1**, wherein the tissue culture can regenerates into a plants having ~~capable of expressing~~ all the physiological and morphological

characteristics of the corn plant ~~*Mop1-2EMS*~~*Mop1-1*, a sample of the seed of said corn plant ~~*Mop1-2EMS*~~*mop1-1* having ATCC Accession Number PTA-38263828.

Claim 212 (original): The tissue culture of claim 211, wherein the regenerable cells comprise cells derived from embryos, immature embryos, meristematic cells, immature tassels, microspores, pollen, leaves, anthers, roots, root tips, silk, flowers, kernels, ears, cobs, husks, or stalks.

Claim 213 (original): The tissue culture of claim 212, wherein the regenerable cells comprise protoplasts or callus.

Claim 214 (currently amended): A corn plant regenerated from the tissue culture of claim 211, wherein said corn plant ~~has is capable of expressing~~ all of the physiological and morphological characteristics of the corn plant designated ~~*Mop1-2EMS*~~*mop1-1*, a sample of the seed of said corn plant designated ~~*Mop1-2EMS*~~*mop1-1* having ATCC Accession Number PTA-38263828.

Claim 215 (currently amended): A process of producing mutant corn seed, comprising self-pollinating a mutant plant genotypically designated ~~*Mop1-2EMS*~~*mop1-1* or crossing a first parent corn plant with a second parent corn plant, wherein said first or second corn plant is the mutant corn plant ~~*Mop1-2EMS*~~*mop1-1*, a sample of the seed of said mutant corn plant ~~*Mop1-2EMS*~~*mop1-1* having ATCC Accession Number PTA-38263828.

Claim 216 (original): The process of claim 215, wherein crossing comprises the steps of:

- (a) planting in pollinating proximity seeds of said first and second corn plants;

- (b) cultivating the seeds of said first and second corn plants into plants that bear flowers;
- (c) emasculating the male flowers of said first or second corn plant to produce an emasculated corn plant;
- (d) allowing cross-pollination to occur between said first and second corn plants; and
- (e) harvesting seeds produced on said emasculated corn plant.

Claim 217 (original): The process of claim 216, further comprising growing said harvested seed to produce a hybrid corn plant.

Claim 218 (currently amended): Hybrid mutant corn seed produced by the process of claim ~~217~~ 215.

Claim 219 (currently amended): A hybrid mutant corn plant produced by the process of claim 217.

**Claims 220 to 340 (canceled).**

Claim 341 (currently amended): Mutant corn seed ~~designated~~ genotypically designated *rmr1-1* having ATCC Accession Number PTA-3965.

Claim 342 (currently amended): A mutant corn plant produced from the seed of claim 341.

Claim 343 (currently amended): A mutant corn plant having all of the genotypic ~~genetical~~, phenotypic and morphological characteristics of a plant produced from the seed of claim 341.

Claim 344 (original): Pollen or an ovule of the plant of claim 342.

Claim 345 (currently amended): A mutant, transgenic corn plant having the ~~genetical~~ genotypic characteristics of the plant of claim 342.

Claim 346 (currently amended): ~~An essentially homogeneous~~ population of corn plants produced by growing the seed of the corn plant of claim 342.

Claim 347 (currently amended): Mutant, transgenic seed produced from the plant of claim 342, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 348 (currently amended): Progeny mutant seed produced from crossing the plant of claim 342 with another corn plant or by self-pollinating the plant of claim 342.

Claim 349 (currently amended): A mutant, transgenic corn plant produced from the seed of claim 348, wherein said plant comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn plant.

Claim 350 (currently amended): A mutant, transgenic corn seed produced from the plant of claim 349, wherein said seed comprises a transgene, wherein the transgene is hypomethylated and the expression of said transgene is at least two-fold higher as compared to the expression of the transgene in a non-mutant transgenic corn seed.

Claim 351 (currently amended): ~~The~~ A tissue culture of regenerable mutant, transgenic cells of corn plant genotypically designated *rmr1-1*, wherein the tissue culture can regenerate into a plants having ~~capable of expressing~~ all the physiological and morphological characteristics of the corn plant *rmr1-1*, a sample of the seed of said corn plant *rmr1-1* having been deposited under ATCC Accession Number PTA-3965.

Claim 352 (original): The tissue culture of claim 351, wherein the regenerable cells comprise cells derived from embryos, immature embryos, meristematic cells, immature tassels, microspores, pollen, leaves, anthers, roots, root tips, silk, flowers, kernels, ears, cobs, husks, or stalks.

Claim 353 (original): The tissue culture of claim 352, wherein the regenerable cells comprise protoplasts or callus.

Claim 354 (currently amended): A corn plant regenerated from the tissue culture of claim 351, wherein said corn plant has ~~is capable of expressing~~ all of the physiological and morphological characteristics of the corn plant designated *rmr1-1*, a sample of the seed of said corn plant designated *rmr1-1* having been deposited under ATCC Accession Number PTA-3965.

Claim 355 (currently amended): A process of producing mutant corn seed, comprising self-pollinating a mutant plant genotypically designated *rmr1-1* or crossing a first parent corn plant with a second parent corn plant, wherein said first or second corn plant is the mutant corn plant *rmr1-1*, a sample of the seed of said mutant corn plant *rmr1-1* having been deposited under ATCC Accession No. PTA-3965.

Claim 356 (original): The process of claim 355, wherein crossing comprises the steps of:

- (a) planting in pollinating proximity seeds of said first and second corn plants;
  - (b) cultivating the seeds of said first and second corn plants into plants that bear flowers;
  - (c) emasculating the male flowers of said first or second corn plant to produce an emasculated corn plant;
  - (d) allowing cross-pollination to occur between said first and second corn plants;
- and
- (e) harvesting seeds produced on said emasculated corn plant.

Claim 357 (original): The process of claim 356, further comprising growing said harvested seed to produce a hybrid corn plant.

Claim 358 (currently amended): Hybrid mutant corn seed produced by the process of claim ~~357~~ 355.

Claim 359 (currently amended): A hybrid mutant corn plant produced by the process of claim 357.

**Claims 360 to 380 (canceled).**